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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,828	11/04/2003	Thomas W. Stone	10020907-1	6251
57299	7590	02/23/2006	EXAMINER	
AVAGO TECHNOLOGIES, LTD. P.O. BOX 1920 DENVER, CO 80201-1920			BELLO, AGUSTIN	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/700,828

Applicant(s)

STONE, THOMAS W.

Examiner

Agustin Bello

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-21 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Oath/Declaration***

1. The declarations filed on 12/05/2005 under 37 CFR 1.131 has been considered but are ineffective to overcome the Doerr (U.S. Patent No. 6,754,410) reference.
2. The evidence submitted is insufficient to establish diligence from a date prior to the date of reduction to practice of the Doerr reference to either a constructive reduction to practice or an actual reduction to practice. In accord with MPEP 715.07 Part II, conception has been established via an allegation that the acts referred to in the declarations occurred prior to a specified date without a disclosure of the actual date(s) of conception. However, the actual dates relied upon to establish diligence are not provided resulting in a nearly 6 month gap between the applicant's alleged conception and the applicant's constructive reduction to practice, e.g. the filing of the US application. While the applicant and his representative allege that they were reasonably diligent in filing the application in that they exchanged several drafts of the application prior to filing the application, evidence of the facts establishing this diligence is lacking in that specific dates for these exchanges are not given. Furthermore, it has been judicially determined that six days to execute and file an application is acceptable, see *Haskell v. Coleburne*, 671 F.2d 1362, 213 USPQ 192, 195 (CCPA 1982). See also *Bey v. Kollonitsch*, 866 F.2d 1024, 231 USPQ 967 (Fed. Cir. 1986). On a side note, it appears that an error has occurred in point 5 of the inventor's declaration in that the inventor indicates that he left Agilent on or about July 31, 2002, a date almost a year prior to conception.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 19-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added limitation claiming that the output beams being substantially coplanar to said plurality of input beams is not described in the specification as originally filed.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3, 5, 7, 8, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Doerr (U.S. Patent No. 6,754,410).

Regarding claims 1 and 5, Doerr teaches separating input optical radiation into distinct input channels (reference numeral 501 in Figure 5); selecting desired distinct output channels (as seen at outputs 511-513 in Figure 5); propagating said distinct input channels through a selectable grating based switching/routing sub-system (reference numeral 502-508 in Figure 5) in order to direct said distinct input channels to desired distinct output channels; recombining said desired distinct output channels (as seen at outputs 511-513 in Figure 5).

Regarding claims 2 and 7, Doerr teaches that the step of separating input optical radiation comprises the step of utilizing a separating sub-system comprising a pair of separating gratings (reference numeral 501, 502 in Figure 5); and, wherein the step of recombining said desired distinct output channels comprises the step of utilizing a recombining sub-system comprising a pair of recombining gratings (reference numeral 507 in Figure 5).

Regarding claims 3 and 8, Doerr teaches that the step of separating input optical radiation comprises the step of utilizing a separating sub-system comprising at least one Array Waveguide Grating (AWG) (reference numeral 501 in Figure 5); and, wherein the step of recombining said desired distinct output channels comprises the step of utilizing a recombining sub-system comprising at least one Array Waveguide Grating (reference numeral 507-508 in Figure 5).

Regarding claim 10, Doerr teaches that said first separating diffraction grating is substantially (reference numeral 501 in Figure 5) parallel to said second separating diffraction grating (reference numeral 502 in Figure 5) , and, said first recombining diffraction grating (upper grating, reference numeral 507 in Figure 5) is substantially parallel to said second recombining diffraction grating (lower grating, reference numeral 507 in Figure 5).

7. Claims 19-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Stone (U.S. Patent No. 5,771,320).

Regarding claims 19-21, Stone, being the same inventor of the present instant application, discloses the optical switching/routing sub-system as claimed.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 6, 9, 11-14, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doerr in view of Stone (U.S. Patent No. 5,771,320).

Regarding claims 4, 6, 9, and 11-14, Doerr differs from the claimed invention in that Doerr fails to specifically teach that the grating based switching/routing sub-system comprises a volume holographic grating based switching/routing sub-system or a pixilated switchable component. However, Stone teaches that a volume holographic grating based switching/routing sub-system and a pixilated switchable component is well known in the art. One skilled in the art would have been motivated to employ a volume holographic grating based switching/routing sub-system or a pixilated switchable component such as that taught by Stone in the device of Doerr due to its compactness, reduction of insertion losses, and crosstalk suppression (abstract Stone). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ the a volume holographic grating based switching/routing sub-system or a pixilated switchable component of Stone as the grating based switching/routing sub-system taught by Doerr.

Regarding claim 15, Doerr teaches that the step of separating input optical radiation comprises the step of utilizing a separating sub-system comprising at least one Array Waveguide Grating (AWG) (reference numeral 501 in Figure 5); and, wherein the step of recombining said desired distinct output channels comprises the step of utilizing a recombining sub-system comprising at least one Array Waveguide Grating (reference numeral 507-508 in Figure 5).

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Regarding claim 16, Stone teaches the use of at least one microlens array (column 6 lines 40-45).

Regarding claim 17, the combination of references differs from the claimed invention in that it fails to specifically teach the use of anamorphic optics. However, anamorphic optics are well known in the art and Official Notice is given that they are well known in the art. One skilled in the art would have been motivated to employ anamorphic optics in the device of Doerr in order to magnify or demagnify the light of the system. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ anamorphic optics in the device of the combination of references.

Regarding claim 18, the combination of references and Stone in particular teaches the limitations of this claim.

### ***Response to Arguments***

10. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection, e.g. the 112 rejection directed to the new matter.

11. Applicant's arguments filed 12/05/05 have been fully considered but they are not persuasive. Being that the evidence submitted is insufficient to establish diligence from a date prior to the date of reduction to practice of the Doerr reference to either a constructive reduction to practice or an actual reduction to practice, the examiner maintains that the cited references teach the limitations of the claimed invention.

***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

  
**AGUSTIN BELLO**  
**PRIMARY EXAMINER**